

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)



(PCT Article 36 and Rule 70)

REC'D 04 AUG 2005

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Applicant's or agent's file reference PCT04-043	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/KR2004/000821	International filing date(day/month/year) 08 APRIL 2004 (08.04.2004)	Priority date (day/month/year) 10 APRIL 2003 (10.04.2003)	
International Patent Classification (IPC) or national classification and IPC IPC7 H04N 7/32			
Applicant SK TELECOM CO., LTD. et al			

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____ containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box relating to Sequence Listing (see Section 802 of the Administrative Instructions).
- This report contains indications relating to the following items:
 - ☒ Box No. I Basis of the report
 - ☐ Box No. II Priority
 - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Box No. IV Lack of unity of invention
 - ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☒ Box No. VI Certain documents cited
 - ☐ Box No. VII Certain defects in the international application
 - ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 04 NOVEMBER 2004 (04.11.2004)	Date of completion of this report 27 JULY 2005 (27.07.2005)
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer KIM, Kyeoun Soo Telephone No. 82-42-481-8174 

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/KR2004/000821

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☒ This report is based on translations from the original language into the following language English which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☒ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-22	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-22	NO
Industrial applicability (IA)	Claims	1-22	YES
	Claims	None	NO

2. Citations and explanations (Rule 70.7)

Reference is made to the followings documents:

D1: KR 2003-027425A (LG Electronics Co.) 07 APRIL 2003

D2: Jong-Hyun Lim and Hae-Wook Choi, "Adaptive motion estimation algorithm using spatial and temporal correlation", 2001 IEEE Pacific Rim Conference on Communications, Computers and signal Processing, Volume 2, pp. 473-476, 26-28 Aug. 2001.

Claims 1-22 meet the criteria set out in PCT Article 32(2), because the subject-matter is novel over the documents D1-D2.

The document D1 discloses an adaptive decision method for motion vector search range, comprising a step for deciding sets of maximum motion vectors of adjacent blocks, a step for deciding a set of maximum motion vectors of the current block among the above motion vectors, a step for deciding maximum area of motion vectors, and a step for deciding a final area of motion vectors. D2 discloses an adaptive motion estimation algorithm using spatial and temporal correlation, characterized by selecting adaptive search window per macroblock using 3 spatial macroblocks and one temporal macroblock.

It appears obvious for a person skilled in the art to use D1-D2 to arrive at Claims 1-22, which include a method and an apparatus for deciding a search range for motion vector prediction, thus the inventive step of the subject-matter claimed cannot be acknowledged, thereby Claims 1-22 cannot meet the criteria set out in PCT Article 32(3) under the documents D1-D2.

Claims 1-22 meet the criteria of PCT Article 33(4), because the invention can be used to a method and an apparatus for determining motion vector search range in video encoder.

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Box No. VI Certain documents cited

1. Certain published documents (Rule 70.10)

<u>Application No. Patent No.</u>	<u>Publication date (day/month/year)</u>	<u>Filing date (day/month/year)</u>	<u>Priority date (valid claim) (day/month/year)</u>
US 2003/0142749 A1	31/07/2003	24/12/2002	26/01/2002

Document US 2003/0142749 A1 filed on 24/12/2002, published on 31/07/2003 with a claimed priority date of 26/01/2002 (validity not checked) does not constitute prior art within the meaning of Rule 64.1(b) PCT, but appears to disclose most of features of Claims 1-22.

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure

Date of non-written disclosure
(day/month/year)

Date of written disclosure
referring to non-written disclosure
(day/month/year)